



***Microtec
Research Inc.***

***MCC68K
Installation
Guide***

100132-011

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REV.	REVISION HISTORY	DATE	APPD.
-001	Original issue.	8/88	T.P.
-002	Corrections.	11/88	T.P.
-003	Revised to meet ANSI C standards.	4/89	T.P.
-004	(Non-ANSI) IBM-PC installation added and produced at 80% for new packaging.	12/89	T.P.
-005	ANSI MCC68K. Includes IBM-PC/MS-DOS, UNIX and reduced to 80% for new packaging.	12/89	T.P.
-006	Added installation instructions for VAX/VMS, Motorola UNIX/System V, and Apollo DOMAIN/IX systems.	2/90	T.P.
-007	Added installation instructions for HP-UX and VAX/ULTRIX.	4/90	J.A.
-008	Manual revision to support software version 4.1. Flexible License Installation Chapter added for Sun3 and Sun4.	6/90	T.P.
-009	Flexible License Installation Chapters removed -- now available as a separate document.	9/90	T.P.
-010	Added installation instructions for SCO UNIX System V/386.	1/91	L.W.
-011	Manual revised to support version 4.2 software. Installation chapters were removed for hosts that use Flexible Licensing.	9/91	L.W.



Components of the Compiler Package

The Microtec Research MCC68K C compiler package consists of:

- the MCC68K C Compiler
- the ASM68K assembler package

The ASM68K assembler package consists of:

- the ASM68K Assembler
- the LNK68K Linker
- the LIB68K Librarian

An optional symbolic debugger, XRAY68K, is also available from Microtec Research.

About the Documentation Set

The documentation set describing the Microtec Research MCC68K compiler software consists of this *Installation Guide*, a *User's Guide*, and a *Reference Manual*.

1. The *Installation Guide* contains host computer and operating system-specific directions for installing the MCC68K package.
2. The *User's Guide* provides host computer and operating system-specific descriptions of how to invoke the compiler.
3. The *Reference Manual* describes the MCC68K implementation of the C programming language and the internal operation of the compiler. Error and warning messages are described.

About this Guide

This guide describes how to install the Microtec Research MCC68K C Compiler and related files on the following host computers and operating systems:

- HP 9000 300 series/HP-UX
- IBM-PC/AT or compatible computer using PC-DOS or MS-DOS
- SCO UNIX System V/386
- VAX/VMS

Installation instructions are contained in the *Flexible License Manager* documentation set for the following hosts:

- Apollo DOMAIN/OS
- DECstation/ULTRIX
- HP 9000 700 series/HP-UX
- HP 9000 800 series/HP-UX
- Sun-3/SunOS
- Sun-4/SunOS

If your host is supported by Flexible Licensing, refer to the Flexible Licensing documentation and ignore the installation instructions in this guide.

Notational Conventions

The *Microtec Research MCC68K Installation Guide* uses the following notational conventions shown in Table P-1 (unless otherwise noted).

Table P-1. Notational Conventions

Symbol	Meaning
Punctuation	Punctuation such as commas (,) and colons (:) must be entered as shown.
Typewriter Font	Represents user input in interactive examples.
<i>Italics</i>	Indicates a descriptive item that should be replaced with an actual item.

Questions and Suggestions

To help us respond to questions or suggestions regarding the MCC68K Compiler, we have provided two response forms in the back of this documentation.

The first form is a Reader's Response sheet, which is used to help us correct and improve our documentation. We always appreciate your comments, and by completing this form, you can participate directly in the revisions of our publications. The Reader's Response sheet is directed to Technical Publications.

The second form is a Software Performance Report that should be completed if you encounter any errors or problems with Microtec Research software. This report is directed to Technical Support.



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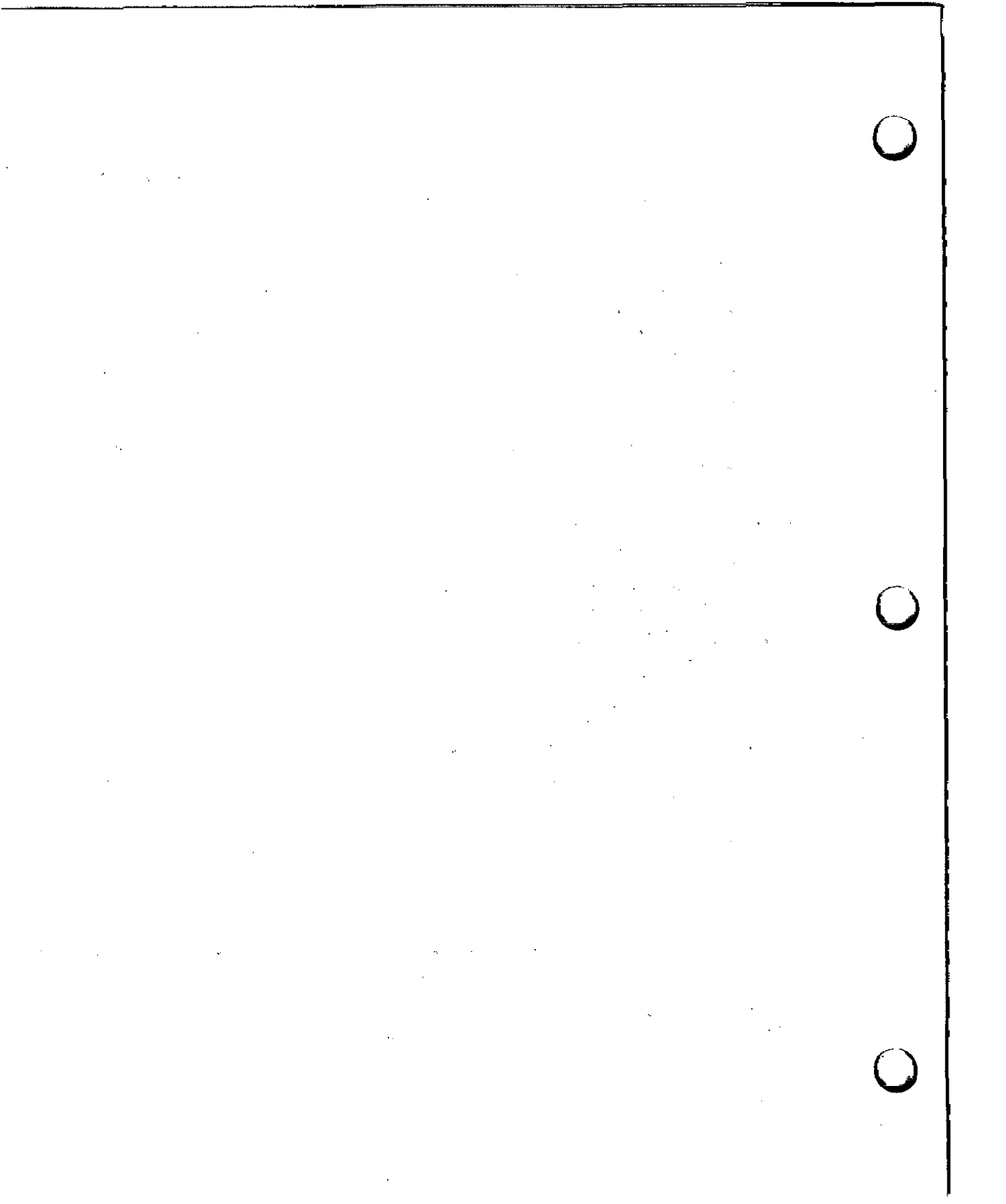
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VAX / VMS Installation 1

Overview

This chapter describes how to install the Microtec Research MCC68K cross compiler package on a Digital Equipment Corporation VAX computer using the VMS operating system.

The operating system prompt used in the directions is a dollar sign (\$). Your system may be configured with a different prompt.

Distribution Format

The Microtec Research MCC68K compiler package for VAX/VMS is available on:

- 9-track magnetic tape (1600 bpi) in BACKUP format
- TK50 cartridge tape in BACKUP format

Installation Procedure

Note

If your distribution includes the Microtec Research XRAY68K Debugger, refer to the *Microtec Research XRAY68K Installation Guide* for instructions on reading the distribution media; otherwise, follow the instructions here.

To install the MCC68K package, complete the following steps:

1. Log in to the system installation account, **SYSTEM**. You must have the privileges of a system manager in order to log into this account.
2. Set your default directory to **SYSS\$UPDATE** by entering:

```
$ SET DEFAULT SYSS$UPDATE
```

The **SYSS\$UPDATE** directory is used during the installation procedure as a temporary directory. Files are read into the **SYSS\$UPDATE** directory and then moved to other directories. All files created in this directory are automatically removed after the installation process.

3. Physically mount the distribution tape on an appropriate drive. Verify that the tape is write-protected by setting the write protection switch in the safe position (cartridge tape) or by removing the write-enable ring if one is on the tape (9-track tape).
4. If the tape drive on your system has a density switch on it, set it for the density indicated on the distribution tape.

The name of the tape drive can vary from one computer system to another. See your system administrator for the tape device name that is correct for you. Table 1-1 shows some common devices and their corresponding mnemonic names.

Table 1-1. Device Types

Device Type	Mnemonic
TU78	MFCn:
TE16, TU16, TU77	MTcn:
TS11, TSV05, TU80	MScn:
TK50	MUCn:

In the mnemonics shown, *c* refers to the controller (usually A), and *n* refers to the unit number of the drive (usually 0).

Note

These instructions use *MTA0:* as a sample device name. Use the appropriate tape drive designation for your system in place of *MTA0:*.

5. Logically mount the tape by entering:

```
$ ALLOCATE MTA0:
$ MOUNT/FOREIGN MTA0:
```

6. Create an empty directory and move to it, or change your current directory to an existing empty directory. This directory is your distribution directory.

```
$ CREATE/DIRECTORY [.distribution_directory]
$ SET DEFAULT [.distribution_directory]
```

7. Copy the files from the tape to your *distribution_directory* by entering:

```
$ BACKUP MTA0:*. * *. *;
```

8. Dismount the tape by entering:

```
$ DISMOUNT MTA0:  
$ DEALLOCATE MTA0:
```

9. Run the installation procedure command file by entering:

```
$ @MRIINSTAL
```

10. Log out and log back in to activate the CLI tables, which are updated by the installation command file. Other users logged in during this installation must also log out and log back in before using the executable program images included on the MCC68K distribution.

You have now completed the MCC68K installation.

Accessing Files in Alternate Locations

For information on accessing standard include files in directories other than the default directories, see the */spath* option in the *User's Guide*.

HP / HP-UX Installation 2

Overview

This chapter describes how to install the Microtec Research MCC68K cross compiler package on a Hewlett-Packard HP 9000 300 series computer using the HP-UX operating system.

The operating system prompt used in the directions is a percent sign (%). Your system may be configured with a different prompt.

Distribution Format

The Microtec Research MCC68K cross compiler package for HP-UX is distributed on cartridge tape in UNIX tar format.

Installation Procedure

To install the MCC68K files, complete the following steps:

1. Log in to an account that has super-user privileges. (Because MCC68K files will be copied to protected directories, you must have super-user privilege to complete the installation.)
2. Physically mount the distribution media on an appropriate drive with the write protection switch in the safe position.
3. Create an empty directory and move to it, or move to an existing directory:

```
% mkdir distribution_directory
% cd distribution_directory
```

4. Read the media by entering:

```
% tar -xvf /dev/rct
```

where */dev/rct* is the device name of your cartridge tape drive. The names of files are displayed on your terminal as they are read into the *distribution_directory*.

5. Invoke the installation script that moves MCC68K files to various directories by entering:

```
% sh mri68kinst
```

This command invokes the following scripts:

- x68kinst, which installs the XRAY68K debugger files (if present)
- c68kinst, which installs the MCC68K compiler files
- a68kinst, which installs the ASM68K assembler files (if present)

Warning

The installation script will overwrite any files with duplicate file names. For information on the files provided with this distribution, refer to your *Release Notes*.

If you want to change the location where files are installed, see the next section titled *Accessing Files in Alternate Locations*.

6. Add the directory containing the executable files to your search path as shown below.

Using C shell (csh):

```
% set path=($path /usr/mri/bin)
```

Using Bourne shell (sh):

```
% PATH="$PATH:/usr/mri/bin"
% export PATH
```

7. Edit your .login (csh) or .profile (sh) file to include the directory containing the executable files to your search path.
8. If you are using the C shell (csh), you must make executable files available from the current directory by entering:

```
% rehash
```

You have now completed the MCC68K installation.

Accessing Files in Alternate Locations

For information on accessing files including standard include files in directories other than the default directories, see the -J option and the section titled *Environment Variables* in the *User's Guide*.

IBM-PC / DOS Installation 3

Overview

This chapter describes how to install the Microtec Research MCC68K cross compiler package on an IBM-PC/AT or compatible computer with 640K bytes of RAM, using the MS-DOS or the PC-DOS operating system.

The operating system prompt used in the directions is `C>`. Your system may be configured with a different prompt.

Distribution Format

The MCC68K cross compiler package is distributed on 5.25 inch floppy diskettes. You are reminded that the license is for a single computer; copies can be made for backup purposes only.

Warning

Before installation, make backup copies of the diskettes using the DOS diskcopy command.

Since these programs do not fit on a single diskette, it is inconvenient to execute them on systems without a hard disk. This guide presumes that you are running on a hard disk with 1MB free bytes available.

Installation Procedure

To install the MCC68K Compiler, complete the following steps:

1. Boot DOS.
2. Insert the diskette labeled "MCC68K Vol. 1 of n" into drive A.
3. Enter:

```
C> a:install
```

This step will create a distribution directory and copy the distribution files into it. Instructions will appear on your display screen. You will be prompted for:

- target hard disk drive (default: c)
- distribution directory (default: \mcc68k with \mcc68k\tmp for temporary files)

You can enter CTRL-C (press both keys simultaneously) at any prompt to abort the installation.

Warning

If the distribution directory already exists, the installation program displays a message warning you that all the files in the distribution directory will be erased. You can select a different distribution directory at this time.

For information on the files provided with this distribution, refer to your *Release Notes*.

4. Insert the other diskettes into drive A as prompted.
5. Modify your current search path to include the distribution directory. Use the DOS path command to determine the current path setting:

```
C> path
```

Then, append the distribution directory to your current path using the PATH command. For example, if your current path is c:\bin;\dir1, you would append \mcc68k to your current path by entering:

```
C> path c:\bin;\dir1;\mcc68k
```

6. Edit the autoexec.bat file to include the updated path.
7. Edit the config.sys file to contain the lines:

```
FILES = 15  
BUFFERS = 15
```

Note

These are the minimum values required; other applications may require larger values. You may want to increase these values if many include files are used. Care should be exercised when increasing these values because file and buffer parameters reduce available memory.

8. Always reboot your system after modifying the config.sys file so that DOS will use your new values.

You have now completed the MCC68K installation.

For information about installing the assembler, see the *Microtec Research ASM68K Installation Guide*.

For information about installing the XRAY Debugger, see the *Microtec Research XRAY68K Installation Guide*.

Accessing Files in Alternate Locations

For information on accessing files including standard include files in directories other than the default directories, see the -J option and the section titled *Environment Variables* in the *User's Guide*. To access non-standard include files, see the -I option in the *User's Guide*.



SCO UNIX System V/386 Installation 4

Overview

This chapter describes how to install the Microtec Research MCC68K cross compiler package on a standard 386-based personal computer using the SCO UNIX System V/386 operating system.

The operating system prompt used in the directions is a percent sign (%). Your system may be configured with a different prompt.

Distribution Format

The Microtec Research MCC68K cross compiler package for the SCO UNIX System V operating system is distributed on 5.25 inch or 3.5 inch floppy diskettes (depending on what you ordered) in a UNIX tar format that is readable by the SCO UNIX custom installation program.

Installation Procedure

To install the MCC68K files, complete the following steps:

1. Log in to an account that has super-user privileges. (Because MCC68K files will be copied to protected directories, you must have super-user privilege to complete the installation.)
2. Run the custom installation program by entering:

```
% custom -m /dev/xxxx
```

In the above command, xxxx represents the device name. Refer to the system file /etc/default/tar for your device name.

For more information on custom, a menu-driven program that is resident on your SCO UNIX system, refer to the *SCO UNIX System Administrator's Reference Manual*.

3. Add /usr/mri/bin to your path variable if it is not already there. If you are using the C shell (csh), enter:

```
% set path=($path /usr/mri/bin)
```

If you are using the Bourne shell (sh), enter:

```
% PATH="$PATH:/usr/mri/bin"  
% export PATH
```

Also, whether or not you are in the C or Bourne shell, change your .login file to include /usr/mri/bin in your path definition.

4. If you are using the C shell (csh), you must make executable files available from the current directory by entering:

```
% rehash
```

You have now completed the MCC68K installation.

Accessing Files in Alternate Locations

For information on accessing files including standard include files in directories other than the default directories, see the -J option and the section titled *Environment Variables* in the *User's Guide*.

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Reader's Response

Please complete and return the following Reader's Response form to help us improve our documentation. Your comments and suggestions are always appreciated.

Product Name _____
Your Name _____
Company _____
Phone Number _____

Manual Date/Version _____
Title _____
Address _____

What is your level of programming experience?

_____ Advanced
_____ Intermediate
_____ Beginner

In this language?

_____ Advanced
_____ Intermediate
_____ Beginner

Circle the number which best expresses your rating of the information in this manual (*5 is the highest rating*):

Complete?	1	2	3	4	5	Easy to understand?	1	2	3	4	5
Accurate?	1	2	3	4	5	Helpful examples?	1	2	3	4	5
Well organized?	1	2	3	4	5	Helpful procedures?	1	2	3	4	5
Easy to Find?	1	2	3	4	5	At an appropriate level?	1	2	3	4	5
Easy to Read?	1	2	3	4	5	Overall rating?	1	2	3	4	5

3.) Which programming language do you use?

4.) Does the manual provide all the necessary information? If not, what is missing?

5.) Are more examples needed? If so, where?

6.) Did you have any difficulty understanding descriptions or wording? If so, where?

7.) Which sections of this manual are the most important? The most helpful?

8.) What are the best features of this manual?

9.) What are the areas in this manual that need improvement?

10.) Did you find any errors in this manual? (Specify section and page number.)



Software Performance Report Instructions

If problems or errors are encountered when using Microtec Research's software products (including documentation), a Software Performance Report (SPR) should be completed and returned to:

**Microtec Research
Software Performance Reports
2350 Mission College Boulevard
Santa Clara, CA 95054**

Any comments or suggestions you may have should also be included. All SPRs are directed to our Technical Support Department for analysis and response.

When completing the top section of the SPR, enter the following:

1. Product name and Version number as it appears on the media label or the banner that appears on the screen when the product is invoked.
2. Serial Number as it appears on the media label.
3. Name of the person (Customer) that Microtec Research can contact.
4. Name of the company that the software was Purchased From.
5. Company Name and a shipping Address.
6. Phone Number and/or FAX Number of contact name.
7. Host (machine where the Microtec Research product is run).
8. Host Operating System and Version Number.
9. Report Type showing the type of problem reported.
10. Customer Impact indicating the severity of the problem.

The following guidelines should be followed when completing the bottom section of the SPR:

1. Give as complete a description as possible of the problem, error, or suggestion, including the exact wording of any error messages.
2. If possible, isolate the problem by providing a small example.
3. If the error example is longer than one page of source code, send all information on a tape or floppy disk.
4. Carefully label any media you send and indicate whether you want it returned to you.
5. Include command files, listings, load maps, include files, data files, and all other relevant material with the SPR.
6. If applicable, send sample input and output listings.
7. If the output is from a compiler, send a mixed (source/assembly code) listing.

If the information on the SPR is complete and concise, it will help us give you accurate and timely service to any software problem.

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Software Performance Report

Product:	Customer:
Version:	Company Name/Address
Serial Number:	
Purchased From:	Phone Number

Host: ☐ Apollo ☐ HP ☐ PC ☐ Other _____
 ☐ Sun-3 ☐ Sun-4/SPARC ☐ VMS

Operating System _____ Version _____

Report Type:

- ☐ Problem/Error
- ☐ Documentation
- ☐ Feature Request
- ☐ Other _____

Customer Impact:

- ☐ Heavy
- ☐ Moderate
- ☐ Minor

Problem Description (Attach additional pages if needed):

Problem Recreation (Commands or lines of code used to duplicate problem):

Workaround (Attach additional pages if needed):



C

C

C



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